

Appl. No.: 09/448,175  
Amdt. dated: 8/5/2003  
Reply to Office Action of April 7, 2003

### **REMARKS/ARGUMENTS**

Upon entry of the instant amendment, claims 1-9 are pending. Claims 1 and 8 have been amended to more particularly point out the Applicants' invention. Before getting into the merits of the Official Action, the Applicants would like to clarify several discrepancies. The first discrepancy relates to the status of the drawings. The Office Action Summary indicates, in block 10, that the drawings filed on November 24, 1999 are acceptable. However, a Notice of Draftspersons Patent Drawing Review indicates that there are objections from the patent draftsperson of the drawings mailed on November 24, 1999. The Examiner is respectfully requested to clarify whether the drawings are accepted, as indicated in the Office Action Summary, or whether the Applicants need to correct the drawings in order to overcome the objections in the Notice of Draftspersons Patent Drawing Review.

The second discrepancy relates to the Information Disclosure Statement. Paragraph 1 of the Detailed Action indicates that the Information Disclosure Statement filed on November 24, 1999 fails to meet the requirements of 37 C.F.R. §1.98(a) 2. This paragraph also indicates that the references disclosed therein are not being made of record but have been placed in the file. However, a Form PTO 1449 has been included with the Official Action. The six U.S. patents listed therein have been initialed by the Examiner. Normally this means that those references will be made of record. Form PTO 1449 additionally shows the two non-patent references being crossed out. It is not clear to the Applicants why these references were crossed out and not made of record. Paragraph 1 of the Detailed Action implies that legible copies were not furnished. If this is the case, the Applicants respectfully request clarification by the Examiner in which case the Applicants would be happy to submit additional copies of the non-patent references cited in the Information Disclosure Statement.

Finally, the Applicants request clarification as to whether only the non-patent references have been placed in the file and not made of record or all of the references on the Form PTO

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1449 have been placed in the file and not made of record. The Examiner is respectfully requested to clarify these issues.

**Claim Objections:**

Claims 7 and 9 have been objected to because of informalities related to the phrase "and a one or more". This phrase has been corrected as suggested in paragraph 2 of the Detailed Action. Accordingly, this objection should be obviated.

**Claim Rejections – 35 U.S.C. §102:**

Claims 1-3 and 8 have been rejected under 35 U.S.C. §102(b) as being anticipated by *Cariolaro et al.* European patent EP 0 668 679 A2. However, the Applicants question whether the rejection of claims 1-3 and 8 have all been rejected under 35 U.S.C. §102(b) or whether just claims 1 and 8 have been rejected under 35 U.S.C. §102(b) and claims 2 and 3 have been rejected under 35 U.S.C. §103. With respect to claims 2 and 3, paragraph 4 of the Detailed Action states "... it would have been obvious to one skilled in the art ..." For purposes of this response, the Applicants respectfully assume that claims 1 and 8 have been rejected under 35 U.S.C. §102(b) and claims 2 and 3 have been rejected under 35 U.S.C. §103(a).

Regarding claims 1 and 8, in order for there to be anticipation under 35 U.S.C. §102, each and every element of the claims must be found in the reference. It is respectfully submitted that the claims recite elements clearly not disclosed or suggested by the *Cariolaro et al.* reference. Indeed, claims 1 and 8 recite a frequency analyzer configured to synthesize a plurality of input signals and provide a single output signal. These claims also recite a plurality of input modulators for modulating the input signals and shifting said input signals. The *Cariolaro et al.* reference has nothing to do with a frequency analyzer and instead relates to an orthogonal frequency division multiplexing transmitter/receiver. In addition, the input signals  $s_0 \dots s_n \dots s_{N-1}$  are not modulated and shifted as the system recited in the claims at issue. Indeed, the *Cariolaro* reference illustrates the input signal and discloses a first rate converter (LMRC) which changes

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the rate of the input signal, unlike the system recited in the claims at issue, in which the input signals are merely shifted. Thus, the *Cariolaro* reference actually teaches away from the system recited in the claims at issue. For these reasons and all of the above reasons, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1 and 8.

**Claim Rejections – 35 U.S.C. §103:**

As indicated above, the applicants assume, for the purpose of this response, that claims 2 and 3 are being rejected under 35 U.S.C. §103. These claims are both dependent upon claim 1. It is respectfully submitted that paragraph 4 incorrectly indicates that the input signals in the *Cariolaro et al.* reference are multiplied by a factor  $e^{j2\pi/N}$  and that it would be obvious to multiply the input signals by a different factor such as the factor recited in claims 2 and 3. Rather, paragraph 5, line 45 and following indicates the output of the I-DFT processor (not the input signals) are modulated with the factor  $\exp(j2\pi/N)$ . Thus, it is respectfully submitted that the *Cariolaro* reference, if anything, teaches away from the invention recited in the claims at issue.

Claims 4 and 5 have also been rejected under 35 U.S.C. §103(a) as being unpatentable over the *Cairolaro et al.* reference. Claims 4 and 5 are dependent claims. As discussed above, the *Cairolaro* patent actually teaches away from the invention recited in the claims at issue. For these reasons and the above reasons, the Examiner is respectfully requested to reconsider and withdraw the rejection of these claims.

Claims 7 and 9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Cairolaro et al.* in view of *Petranovich et al.* U.S. patent no. 5,937,010. Claims 7 and 9 are dependent upon claims 1 and 8 respectively. As discussed above, the *Cairolaro et al.* patent actually teaches away from the invention recited in claims 1 and 8. The *Petranovich et al.* patent relates to a programmable digital modulator and does not relate to a frequency synthesizer. In addition, the *Petranovich et al.* patent does not disclose or suggest modulation of the input

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signals. Indeed, the Examiner's attention is directed to FIGS. 5-7 of the *Petranovich et al.* patent. As shown, the data input is applied directly to a data interface and is not otherwise multiplied or modulated to shift the data signal as the system recited in the claims at issue. Indeed, the data interface "accepts input symbols and outputs them at the symbol rate f.", (*Petranovich et al.*, column 7, lines 3 and 4). Thus, it should be clear that neither the *Cairolaro* or *Petranovich et al.* patents disclose or suggest, either singly or in combination, a system as recited in the claims at issue. For these reasons and all of the above reasons, the Examiner is respectfully requested to reconsider and withdraw the rejection of these claims.


**CONCLUSION**

An earnest attempt has been made to address each and every issue in the Official Action.

Respectfully submitted,

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